

Operational and Scientific Notes Biological Control of *Lantana camara* L. in Yap

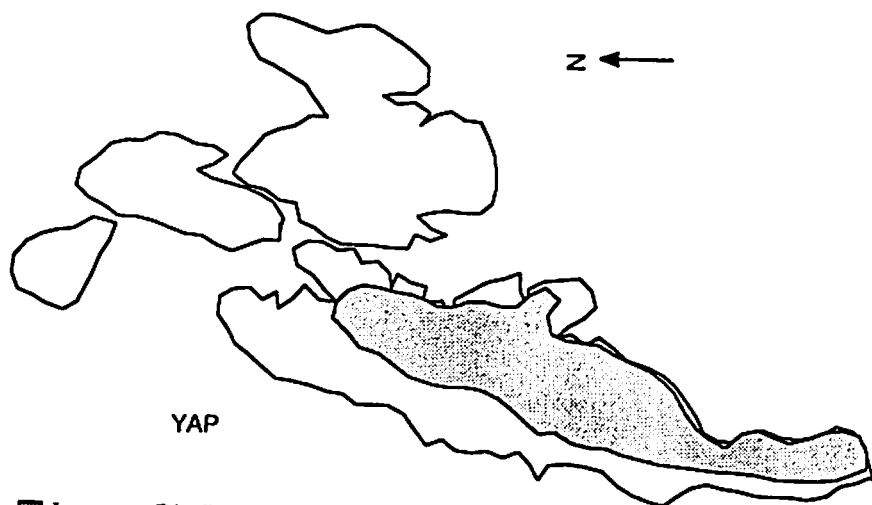
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ABSTRACT

The purposely introduced natural enemies of *Lantana camara* L. namely, *Hypena strigata* (F.), *Salbia haemorrhoidalis* Guenee and *Teleonemia scrupulosa* Stål, failed to establish on Yap. *Lantanophaga pusillidactyla* (Walker) and *Epinotia lantana* Busck, which were not purposely introduced, were found to be established.

Lantana camara L. (Verbenaceae) is a neotropical weed, introduced to the Micronesian islands in early 1900's as an ornamental plant. It has become a problem in many islands in Micronesia. It was reported to be absent in Yap by Kanehira in 1930 (Thaman 1974). However, it has been observed on Yap since the mid 1940's (S. Falanruw, pers. comm.). The current distribution of *L. camara* is shown in Figure 1. It is found only in the southern part of Yap. It is not found in Ulithi, an atoll belonging to Yap State of the Federated States of Micronesia, located in the western Caroline Islands.

This paper presents information on the status of purposely introduced natural enemies and records the establishment of two natural enemies that



■ *L. camara* Distribution

FIGURE 1. Distribution of *L. camara* in Yap.

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were not intentionally introduced, as biological control agents of *L. camara* on Yap. The moths, *Hypena strigata* (F.) (Noctuidae) and *Salbia haemorrhoidalis* Guenee (Pyrilidae) were introduced from Hawaii in 1958 and 1962, respectively, but did not become established. The lantana lace bug, *Teleonemia scrupulosa* Stål (Tingidae), was introduced from Palau in 1962. It has been reported to be established, but has not been very successful (Schreiner 1988).

Surveys conducted in Yap during October, 1987 and January 1988 did not reveal presence of any of these three purposely introduced natural enemies. However, the surveys revealed that two other natural enemies, *Lantanophaga pusillidactyla* (Walker) (Pterophoridae) and *Epinotia lantana* Busck (Tortricidae), were established. There are no records of introductions of *L. pusillidactyla* or *E. lantana* to Yap, but these two insects were introduced to Pohnpei, a state in the Federated States of Micronesia located in the eastern Caroline Islands, in 1948. *L. pusillidactyla* and *E. lantana* were reported to be established in Pohnpei in 1949 (Bryan 1949) and in 1951 (Pemberton 1954).

Both insects jointly have reduced the seed production of *Lantana* in Yap by approximately 80%. The larvae of *L. pusillidactyla* feed primarily on flowers. Feeding reduces the size of the flower heads so that normally they bear only 3 or 4 berries instead of a large bunch. The larva of *E. lantana* bores into the berries and receptacles. As a result, the receptacles end up having few or no berries, depending upon the stage at which the infestation has taken place.

In the past forty years, the spread of *L. camara* has been restricted to the southern part of Yap. It is probable that the reduction in production of seeds by these two accidentally introduced insects has contributed to the slow spread of *L. camara* on Yap. Successful introduction of additional natural enemies that have proven to be effective elsewhere could lead to suppression of *L. camara* in the southern part of Yap.

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